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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,383	03/01/2004	Wolfgang Becker	3926.070	1064
30448 7590 02/26/2007 AKERMAN SENTERFITT P.O. BOX 3188 WEST PALM BEACH, FL 33402-3188			EXAMINER ELVE, MARIA ALEXANDRA	
			ART UNIT	PAPER NUMBER
			1725	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/26/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/790,383

Applicant(s)

BECKER ET AL.

Examiner

M. Alexandra Elve

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 November 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6,7 and 10-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6,7 and 10-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

The disclosure is objected to because of the following informalities: the claims limitations of the original claims are not contained within the specification.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 & 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinsman et al. (USPN 5,814,784) in view of Baessler et al. (USPN 5,567,335).

Kinsman et al. discloses laser welding whereby one laser beam is used to heat treat and weld a workpiece. The laser beam heats a tool (28) which in turn thermal treats the workpiece. A reflector diverts the beam to the workpiece (figures 4 & 5). In addition components are pre-heated. Heat is supplied to the workpiece after processing (i.e. welding) to retard cooling thereof. (abstract, cols. 1-4, 6, clm. 13)

Although Kinsman et al. teaches thermal treatment the actual specifics are not disclosed.

Baessler et al. discloses the welding of a sheet product and a preheat prior to welding. Welding is conducted at a constant output (see figure 3). Welding may be conducted in a curvilinear fashion and overlapping may be used. During welding the laser is defocused to negate excessive heating. Additionally, it was observed that preheating minimized temperature gradients and hence allowed for increased welding speeds. It was found that preheating negated 5 to 40% of the thermal energy required. Thus for the production of welded sheet steel bodies a welding temperature of 1000 to 1600 C implies a preheat of 100 to 600 C (thus up to 60%). (abstract, figures, cols. 1-3)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use preheats with the above percentage differences as taught by Baessler et al. in the Kinsman et al. process because this optimizes the welding speed and increases manufacturing efficiency.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kinsman et al. and Baessler et al., as stated in the above paragraph and further in view of Totsuka et al. (USPN 5,303,081).

Kinsman et al. and Baessler et al. do not teach using a scanner to guide the laser beam.

Totsuka et al. discloses a laser beam for welding and annealing workpieces. Scanning is used in butt-welding in order to enhance the strength of the welded seam. The scanning mode is accomplished by oscillating the laser beam left and right. (abstract, figures, col. 1, cols. 3-4, col. 6)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use scanning, as taught by Totsuka et al. in the Kinsman et al. and Baessler et al. process because of the enhance strength of the weld seam.

Claims 6 & 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiumi (JP 63-43788 abstract) in view of Kinsman et al. and Baessler et al. (USPN 5,567,335).

Uchiumi discloses the preheating and welding using one laser beam. The laser is defocused for preheating and then focused for welding. Temperature of the board (sheets) is noted to negate material property effects.

Uchiumi does not teach the actual specifics of the thermal treatment or the use of a post treatment.

Kinsman et al. discloses laser welding whereby one laser beam is used to heat treat and weld a workpiece. The laser beam heats a tool (28) which in turn thermal treats the workpiece. A reflector diverts the beam to the workpiece (figures 4 & 5). In addition components are pre-heated. Heat is supplied to the workpiece after processing (i.e. welding) to retard cooling thereof. (abstract, cols. 1-4, 6, clm. 13)

Baessler et al. discloses the welding of a sheet product and a preheat prior to welding. Welding is conducted at a constant output (see figure 3). Welding may be conducted in a curvilinear fashion and overlapping may be used. During welding the laser is defocused to negate excessive heating. Additionally, it was observed that preheating minimized temperature gradients and hence allowed for increased welding

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speeds. It was found that preheating negated 5 to 40% of the thermal energy required. Thus for the production of welded sheet steel bodies a welding temperature of 1000 to 1600 C implies a preheat of 100 to 600 C (thus up to 60%). (abstract, figures, cols. 1-3)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a post treatment as taught by Kinsman et al. and preheats with the above percentage differences as taught by Baessler et al. in Uchiumi process because this optimizes the welding speed and increases manufacturing efficiency.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiumi, Kinsman et al. and Baessler et al., as stated in the paragraph above and further in view of Totsuka et al.

Uchiumi, Kinsman et al. and Baessler et al. do not teach using a scanner to guide the laser beam.

Totsuka et al. discloses a laser beam for welding and annealing workpieces. Scanning is used in butt-welding in order to enhance the strength of the welded seam. The scanning mode is accomplished by oscillating the laser beam left and right. (abstract, figures, col. 1, cols. 3-4, col. 6)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use scanning, as taught by Totsuka et al. in the Uchiumi, Kinsman et al. and Baessler et al. process because of the enhance strength of the weld seam.

***Response to Arguments***

Applicant's arguments filed 11/27/06 have been fully considered but they are not persuasive.

Applicant argues that the new matter limitation is in the preamble of the originally submitted claim. The examiner agrees with the applicant and has withdrawn the new matter rejection. In applicant's arguments there is also a reference to paragraphs [0011 & 0012] and claims. The examiner respectfully notes that claim numbers cannot appear in the body of the specification because during prosecution the claims may change and would render lack of enablement issues in the specification. In addition, the specification must be amended to include this limitation, it cannot only appear in the preamble of an originally submitted claim.

Applicant argues that Kinsman et al. does not teach the increasing rate of advance. The examiner respectfully notes that this taught by Baessler et al., that is, increased welding speeds. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that Kinsman et al. does not teach laser beam heating. The examiner respectfully disagrees because the laser beam heats the tool. Furthermore, omission of an element with a corresponding omission of a function is within the level of ordinary skill in the art. *In re Wilson* 153 USPQ 740; *In re Larson* 144 UAPQ 347; *In re*

Karlson 136 USPQ 184; *In re Portz* 145 USPQ 397; *In re Liston* 58 USPQ 481; *In re Porter* 20 USPQ 298.

Applicant argues that the heating of 10°C is not taught by the prior art. The examiner respectfully disagrees. First the claim limitation is "by at least 10°C". Baessler et al. states a preheat of 100°C, which is at least 10°C.

Applicant argues that a constant output is not taught. The examiner respectfully disagrees because Baessler et al. teaches that welding is conducted at a constant output (see figure 3). In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that Uchiumi does not teach the advance of the laser beam. The examiner respectfully disagrees because Baessler et al teach this. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

February 20, 2007.

A handwritten signature in black ink, appearing to read 'M. Elve', with a long horizontal stroke extending to the right.

M. Alexandra Elve  
Primary Examiner 1725